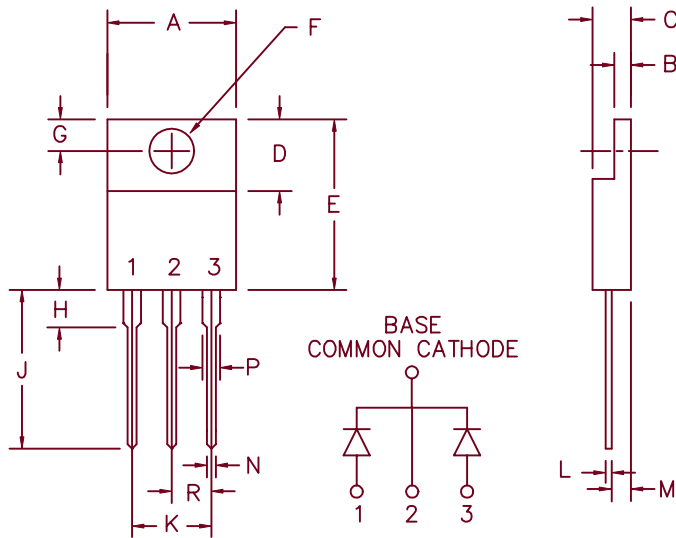


# 30 Amp Schottky Rectifiers FST31120—FST31150



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.161	3.53	4.09	Dia.
G	.100	.135	2.54	3.43	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.022	.357	.559	
M	.080	.115	2.03	2.92	
N	.015	.040	.380	1.02	
P	.045	.070	1.14	1.78	
R	.090	.110	2.29	2.79	

## PLASTIC TO-220AB

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST31120		120V	120V
FST31130		130V	130V
FST31150	MBR30H150CT	150V	150V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss
- 175°C Junction Temperature
- $V_{RRM}$  150 Volt

## Electrical Characteristics

Average Forward Current per pkg.	$I_F(AV)$ 30 Amps	$T_C = 153^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 15 Amps	$T_C = 153^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 250 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. repetitive reverse current	$I_R(OV)$ 2 Amps	$f = 1KHZ$ , $25^\circ C$ , 1us square wave
Max. Peak Forward Voltage per leg	$V_{FM}$ 0.85 Volts	$I_{FM} = 15A$ , $T_J = 25^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ 0.72 Volts	$I_{FM} = 15A$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 1 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 250 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance per leg	$C_J$ 350 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ C$ to $+175^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $+175^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$2.0^\circ C/W$ Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	$1.0^\circ C/W$ Junction to case
Mounting torque		15 inch pounds maximum (6-32 screw)
Weight		.06 ounces (1.8 grams) typical

# FST31120-FST31150

Figure 1  
Typical Forward Characteristics - Per Leg

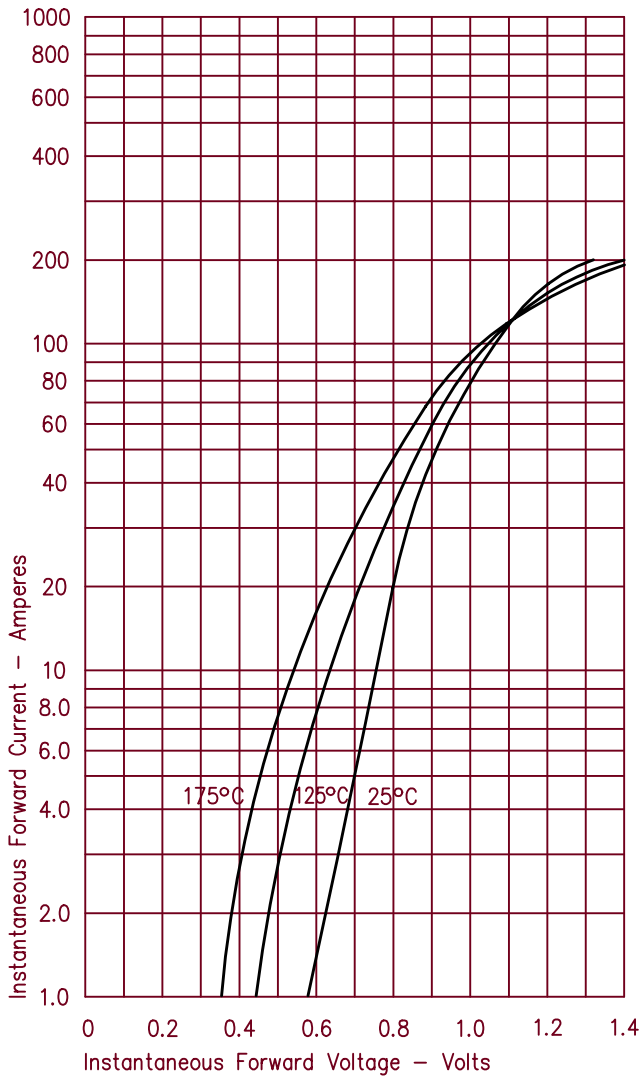


Figure 3  
Typical Junction Capacitance - Per Leg

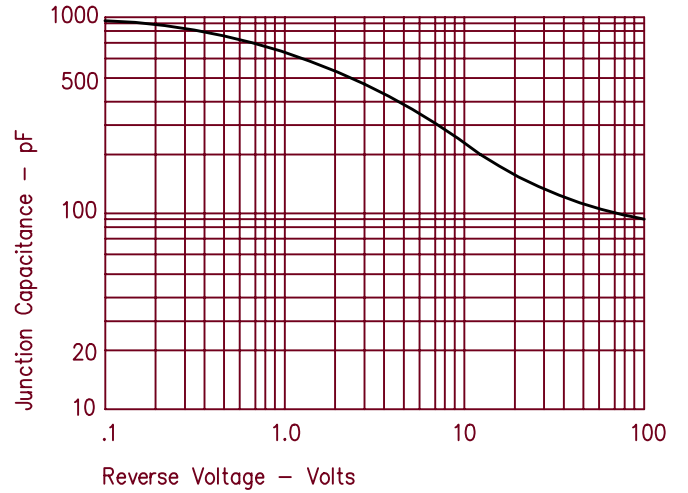


Figure 4  
Forward Current Derating - Per Leg

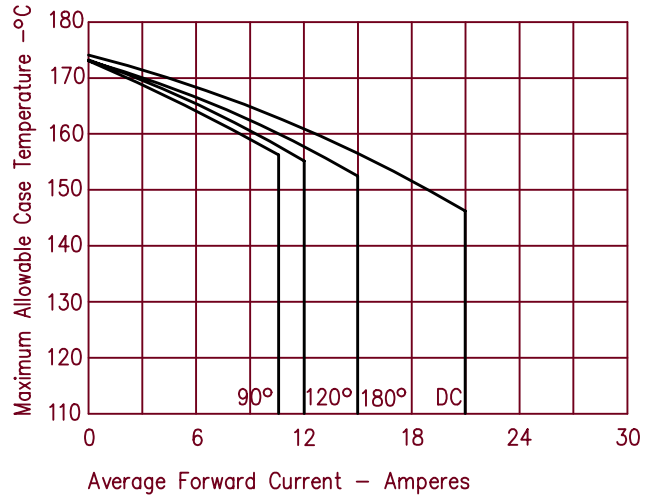


Figure 2  
Typical Reverse Characteristics - Per Leg

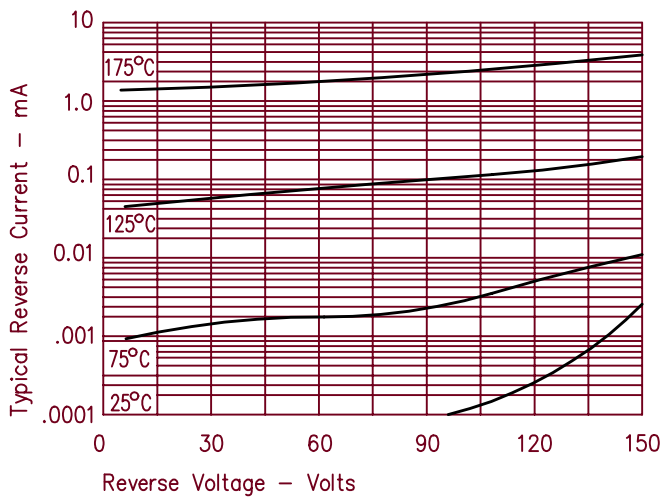


Figure 5  
Maximum Forward Power Dissipation - Per Leg

